



**Dominion
Energy[®]**

**Application, Appendix,
DEQ Supplement, Direct
Testimony and Exhibits of
Virginia Electric and
Power Company**

**Before the State Corporation
Commission of Virginia**

**Chesterfield-Hopewell Lines
#211 and #228
230 kV Transmission Line
Partial Rebuild**

Application No. 285

Case No. PUR-2018-00075

Filed: May 15, 2018

Volume 2 of 2

COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION

APPLICATION OF
VIRGINIA ELECTRIC AND POWER COMPANY
FOR APPROVAL AND CERTIFICATION
OF ELECTRIC FACILITIES

Chesterfield-Hopewell Lines #211 and #228
230 kV Transmission Line Partial Rebuild

Application No. 285

DEQ Supplement

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Table of Contents

	Page
1. Project Description	1
2. Environmental Analysis	2
A. Air Quality	2
B. Water Source.....	2
C. Discharge of Cooling Waters.....	3
D. Tidal and Non-tidal Wetlands.....	3
E. Solid and Hazardous Waste	3
F. Natural Heritage, Threatened and Endangered Species.....	4
G. Erosion and Sediment Control.....	6
H. Archaeological, Historic, Scenic, Cultural or Architectural Resources.....	7
I. Chesapeake Bay Preservation Areas.....	9
J. Wildlife Resources.....	9
K. Recreation, Agricultural and Forest Resources	9
L. Use of Pesticides and Herbicides.....	11
M. Geology and Mineral Resources.....	11
N. Transportation Infrastructure	12
Attachments	14

Based upon consultations with the Virginia Department of Environmental Quality (“DEQ”), Virginia Electric and Power Company (“Dominion Energy Virginia” or the “Company”) has developed this DEQ Supplement to facilitate review and analysis of the proposed Rebuild Project by DEQ and other relevant agencies.

1. Project Description

In order to maintain the structural integrity and reliability of its transmission system in compliance with mandatory North American Electric Reliability Corporation (“NERC”) Reliability Standards, Dominion Energy Virginia proposes (i) to rebuild, entirely within an existing right-of-way, an approximately 8.2-mile section of the existing 11.0-mile 230 kV transmission Lines #211 and #228, which run from the Company’s existing Chesterfield Substation in Chesterfield County to the Company’s existing Hopewell Substation in the City of Hopewell; (ii) to rebuild two structures on Lines #211 and #228 near the Chesterfield Substation on Company-owned property; and, (iii) to complete minor equipment replacements at both Chesterfield Substation and Hopewell Substation (collectively, the “Rebuild Project”).

Specifically, the Company proposes to remove two existing 230 kV double circuit weathering steel lattice towers (Structures #2 and #3) supporting Lines #211 and #228 near the Chesterfield Substation and replace them with two 230 kV double circuit weathering steel two-pole double deadend angle structures. From the Chesterfield Substation to Structure #19 Junction, one alumoweld shield wire and one fiber optic shield wire will be replaced with two fiber optic shield wires on Lines #211 and #228. From Structure #19 Junction to the Hopewell Substation, 46 230 kV double circuit weathering steel lattice towers and one double circuit 230 kV weathering steel pole (Structure #29) supporting Lines #211 and #228 will be replaced with 33 230 kV double circuit weathering steel poles for the tangent suspension structures and 14 230 kV double circuit weathering steel two-pole double deadend structures for the line angles. Two existing double circuit 230 kV weathering steel poles on the north side of the Appomattox River (Structures #40 and #41) were installed in 2006 and will not be replaced as part of the Rebuild Project; however, the conductor wire and shield wire will be replaced from Structure #19 Junction to Hopewell Substation, including the Appomattox River crossing. As the State Corporation Commission of Virginia does not regulate the replacement of shield wire, only the two structures near the Chesterfield Substation and the section of line between Structure #19 Junction and Hopewell Substation are considered part of the Rebuild Project for the purposes of this environmental analysis.

The existing variable-width right-of-way for the transmission corridor is comprised of approximately 4.2 miles within Chesterfield County, 0.4 mile within Prince George County, and 3.6 miles within the City of Hopewell. The right-of-way has been in continuous use since the original 1969 construction. The general character of the Rebuild Project area is predominantly urban residential with open space areas.

2. Environmental Analysis

A. Air Quality

The Company solicited DEQ for comments about the proposed Rebuild Project in April 2018.

The Company will control fugitive dust during construction in accordance with DEQ regulations. During construction, if the weather is dry for an extended period of time, there may be airborne particles from the use of vehicles and equipment within the right-of-way. However, minimal earth disturbance will take place and vehicle speed, which is often a factor in airborne particulate, will be kept to a minimum. Erosion and sediment control is addressed in below Section 2.G. Equipment and vehicles that are powered by gasoline or diesel motors will also be used during the construction of the Rebuild Project so there will be exhaust from those motors.

The entire width of the existing transmission corridor is currently maintained for transmission facility operations. However, the Rebuild Project may require some trimming of tree limbs along the right-of-way edges to support construction activities. The Company does not expect to burn cleared material, but if necessary, the Company will coordinate with the responsible locality to ensure all local ordinances are met. The Company's tree clearing methods are described in Section 2.K.

B. Water Source (No water source is required for transmission lines so this discussion will focus on potential waterbodies to be crossed by the proposed transmission line rebuild.)

The Rebuild Project is located within the Lower James River (Hydrologic Unit Code 02080206) watershed and the Appomattox watershed (Hydrologic Unit Code 02080207). According to the U.S. Geological Survey ("USGS") topographic quadrangles (Chester [1994] and Hopewell [1994]), the Rebuild Project crosses three named perennial streams and rivers: Appomattox River, Cabin Creek, and Cattail Creek.

Any clearing required in the vicinity of streams will be performed by hand within 100 feet of both sides, and vegetation less than three inches in diameter will be left undisturbed.

The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") regarding the proposed Rebuild Project in April 2018. VMRC responses have typically noted a subaqueous encroachment permit would be required for any stream crossings with a drainage area of five square miles or greater at the crossing location. If necessary, a Joint Permit Application will be submitted for review by the VMRC, DEQ, the U.S. Army Corps of Engineers (the

“Corps”), and the City of Hopewell Local Wetlands Board to authorize jurisdictional crossings and for any impacts to jurisdictional features.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Rebuild Project.

D. Tidal and Non-tidal Wetlands

No tidal wetlands were identified within the proposed Rebuild Project area.

Wetlands Impact Consultation

Within the Rebuild Project corridor, the Company delineated wetlands and other waters of the United States using the *Routine Determination Method* as outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (Version 2.0). The Company submitted the results of this delineation to the Corps in March 2018 for confirmation, Attachment 2.D.1. Total jurisdictional resources within the proposed Rebuild Project right-of-way is provided in Table 1 and detailed in Attachment 2.D.1.

Table 1. Jurisdictional Resources within Rebuild Project ROW

Resource	Acreage (±)
Palustrine Emergent Wetland	18.91
Palustrine Scrub-Shrub Wetland	0.94
Open Water	0.15
Jurisdictional Ditches	0.01 (112 linear feet)
Streams	0.55 (3,717 linear feet)
Appomattox River	3.59 (160 linear feet)

Prior to construction, the Company will obtain any necessary permits to impact jurisdictional resources.

E. Solid and Hazardous Waste

On behalf of the Company, Stantec Consulting Services, Inc. (“Stantec”) obtained records reports from Envirosite Corporation (“Envirosite”) to identify solid and

hazardous wastes, and petroleum release sites in the vicinity of the Chesterfield-Hopewell 230 kV Rebuild Project. The Envirosearch report searched existing federal and state databases in accordance with the All Appropriate Inquiries of the Environmental Protection Agency (“EPA”) (40 CFR Part 312) requirements and the ASTM E-1527-13 Environmental Site Assessments standard. Sites noted in the report include Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)/Superfund sites; Resource Conservation and Recovery Act (RCRA) sites, brownfield sites, registered storage tanks, spills, and voluntary cleanup (VRP) sites. The executive summary of this report is included as Attachment 2.E.1.

According to this database 19 registered RCRA sites are present within the Rebuild Project radius. The majority of the sites are small quantity generators and located outside of the right-of-way of the proposed Rebuild Project. The report also identified the coal ash ponds located at the Chesterfield Power Station. A table identifying RCRA sites as falling within 0.25 mile of the Rebuild Project radius is included as part of Attachment 2.E.1.

DEQ records were also searched for the presence of solid waste management facilities, Voluntary Remediation Program sites and petroleum releases. Two Voluntary Remediation Program sites were identified within 0.5 mile of the Rebuild Project. DEQ identified 63 petroleum release sites within the search radius, none of which fall within the right-of-way of the Rebuild Project. These petroleum release sites may include aboveground and underground storage tank releases, as well as aboveground spills. The Company has a procedure in place to handle petroleum contaminated soil if encountered; however, as all of the release sites are located outside of the Rebuild Project area, none of the petroleum release sites are expected to impact the Rebuild Project. A table listing these sites is included in Attachment 2.E.1.

F. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, Stantec conducted online database searches for threatened and endangered species in the vicinity of the Rebuild Project, including the U.S. Fish and Wildlife (“USFWS”) Information, Planning, and Conservation (IPaC) system, the Virginia Department of Game and Inland Fisheries (“DGIF”) Virginia Fish and Wildlife Information Service (“VAFWIS”), Virginia Department of Conservation and Recreation (“DCR”), Natural Heritage Data Explorer (“NHDE”), and the Center for Conservation Biology (“CCB”) Bald Eagle Nest Locator. The results are summarized in a report, included as Attachment 2.F.1, and are presented in the table below.

Table 2. Threatened and endangered species within the project vicinity

Species	Results
<p>Northern long-eared bat (<i>Myotis septentrionalis</i>)</p> <p>Status: FT, ST</p> <p>Database: USFWS-IPaC, DGIF-NLEB Winter Habitat and Roost Tree Map</p>	<p>Identified as potentially occurring in the vicinity of the project. No known hibernacula or maternity roost trees in the vicinity of the project.</p>
<p>Red-cockaded woodpecker (<i>Picoides borealis</i>)</p> <p>Status: FE, SE</p> <p>Database: DGIF VAFWIS</p>	<p>Identified as potentially occurring in the vicinity of the project.</p>
<p>Atlantic sturgeon (<i>Acipenser oxyrinchus</i>)</p> <p>Status: FE, SE</p> <p>Database: DGIF VAFWIS, DCR NHR</p>	<p>Identified as occurring in the Appomattox River.</p>
<p>Sensitive joint-vetch (<i>Aeschynomene virginica</i>)</p> <p>Status: FT, ST</p> <p>Database: USFWS-IPAC, DCR-NHR</p>	<p>Identified as potentially occurring in the vicinity of the project.</p>
<p>James spinymussel (<i>Paryaspina collina</i>)</p> <p>Status: FE, SE</p> <p>Database: DGIF VAFWIS</p>	<p>Identified as potentially occurring in the vicinity of the project.</p>
<p>Dwarf wedgemussel (<i>Alasmidonta heterodon</i>)</p> <p>Status: FE, SE</p> <p>Database: DGIF VAFWIS</p>	<p>Identified as potentially occurring in the vicinity of the project.</p>
<p>Bald eagle (<i>Haliaeetus leucocephalus</i>)</p> <p>Status: BGEPA</p> <p>Database: CCB, USFWS-Bald Eagle Concentration Area Map</p>	<p>No bald eagle concentration areas are located within the project area. No eagle nest management zones that intersect right-of-way.</p>

FT: federally threatened, FE: federally endangered, ST: state threatened, SE: state endangered, BGEPA: Bald and Golden Eagle Protection Act

The federally- and state-threatened northern long-eared bat has been identified by USFWS as potentially occurring within the Rebuild Project area; however, DGIF records indicate that no known hibernacula or maternity roost trees occur within the Rebuild Project vicinity. Since the Rebuild Project will occur within an

existing maintained right-of-way, tree removal is expected to be limited to danger trees and limbing. The clearing is proposed to occur outside the time of year restriction for northern long-eared bat described under the 4(d) rule (i.e., June 1 to July 31); as such, no adverse effects are anticipated to the northern long-eared bat.

The federally- and state-endangered Atlantic sturgeon has been identified by USFWS and DGIF as occurring within the segment of the Appomattox River crossed by the Rebuild Project. No instream work will occur in the Appomattox River. Erosion and sediment control measures will be utilized throughout the Rebuild Project to prevent sedimentation of downstream waters; as such, no adverse effects are anticipated to the Atlantic sturgeon.

USFWS and DCR have identified the sensitive joint-vetch (*Aeschynomene virginica*) as potentially occurring within the Rebuild Project area. The sensitive joint-vetch is federally and state threatened. The sensitive joint-vetch inhabits freshwater tidal wetlands, which would be spanned by the Rebuild Project. Therefore, this species is not expected to be adversely affected by the Rebuild Project.

DGIF records indicate that the federally-endangered and state-endangered red-cockaded woodpecker may occur within or near the project area. The red-cockaded woodpecker is found in old-growth pine forests, which do not occur within the Rebuild Project area. All construction will be within existing, cleared, and maintained transmission line right-of-way.

In a letter dated May 9, 2018, the DCR Division of Natural Heritage provided comments regarding the proposed Rebuild Project See Attachment 2.F.2. DCR commented that although natural heritage resources are present within two miles of the Rebuild Project area, it is not anticipated that the project will adversely affect these resources due to the scope of the activity and distance to the resources. DCR also noted the presence of the Lower Appomattox Marshes Conservation Site within the Rebuild Project area. All construction will be within existing, cleared, and maintained transmission line right-of-way. No work will occur within tidal marshes.

The Company requested comments from the USFWS and DGIF regarding the proposed Rebuild Project in April 2018.

As the Company will obtain all necessary permits prior to construction, such as authorization from the VMRC, DEQ, and the Corps, coordination with the DGIF, DCR, and USFWS will take place through the respective permit processes to avoid and minimize impacts to listed species.

G. Erosion and Sediment Control

The DEQ approved the Company's *Standards & Specification for Erosion & Sediment Control and Stormwater Management for Construction of Linear*

Electric Transmission Facilities. These specifications are given to the Company’s contractors and require erosion and sediment control measures to be in place before construction of the line begins, and specify the requirements for rehabilitation of the right-of-way.

H. Archaeological, Historic, Scenic, Cultural or Architectural Resources

Stantec was retained by the Company to conduct a Stage I Pre-Application Analysis for the proposed Rebuild Project. This analysis was submitted to DHR on May 8, 2018. The report is included as Attachment 2.H.1. Preliminary background research was conducted pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (DHR 2008) for proposed transmission line improvements. As detailed by DHR guidance, consideration was given to: National Historic Landmark (“NHL”) properties located within a 1.5-mile radius of the project centerline; National Register of Historic Places (“NRHP”)-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project right-of-way corridor.

Archaeological Resources

A total of five previously identified archaeological sites were identified within the existing right-of-way. One of these archaeological sites is considered to be potentially eligible for listing on the NRHP by DHR. The remaining four archaeological sites have not been evaluated for NRHP eligibility. The table below provides archaeological resources within the Rebuild Project right-of-way.

Table 3. Archaeological Resources within the Rebuild Project Right-of-Way

DHR #	Resource Name	DHR/NRHP Status
44PG0026	Trash scatter	Not Evaluated
44PG0027	Lithic workshop	Not Evaluated
44PG0028	Lithic workshop, Trash scatter	Not Evaluated
44PG0397	Camp, temporary	Not Evaluated
44CF0578	Earthworks, Fort	Potentially Eligible

Architectural Resources

No NHL-listed architectural resources are located within the 1.5-mile buffer. Six NRHP-listed resources and six battlefields were identified in the 1.0-mile buffer of the Rebuild Project corridor. Three additional resources, which have been

determined eligible for listing on the NRHP, were identified within the 0.5-mile buffer of the transmission line. Distances of architectural resources to the proposed Rebuild Project are provided in the table below.

Table 4. NRHP, Eligible, and Battlefield Resources within 1.0-mile of the Rebuild Project

DHR#	Resource Name	Historic Property Type	Distance to Line (Miles)
020-0121	Osborne's Naval Battle Site	DHR Eligible	0.3
020-0123	Point of Rocks, 1005 Point of Rocks Road	NRHP Listing, VLR Listing	0
020-0232	Howlett Line/Parker's Battery/Parker's Battery Earthworks	DHR Potentially Eligible	0.3
020-0506	Enon Park/Earthworks/Point of Rocks Park	Federal Det. of Eligibility	0.2
020-5317	Port Walthall Junction Battlefield, Indian Hills Road	DHR Eligible	0
020-5318	Swift Creek Battlefield /Arrowfield Church	DHR Potentially Eligible	0
020-5319	Ware Bottom Church Battlefield	DHR Potentially Eligible	0
020-5320	Proctor's Creek Battlefield/ Drewry's Bluff (2nd) Battlefield/ Fort Darling/ Fort Drewry	DHR Potentially Eligible	0
043-0307	Battle of Chaffin's Farm/New Market Heights Battlefield	DHR Potentially Eligible	0.8
074-0024	Federal Correctional Institution, Hopewell Road	DHR Eligible	0.1
116-5001	Courthouse/Hopewell Municipal Building, 300 North Main Street	NRHP Listing, VLR Listing	1.0
116-5021	Farmingdale Plantation/Heretick Farm/Kippax Plantation, 999 Bland Avenue	NRHP Listing, VLR Listing	0.7
116-5030	Hopewell High School/Hopewell High School Complex/James E. Mallonee Building, 1201 City Point Road	NRHP Listing, VLR Listing	0.8
116-5031	Downtown Hopewell Historic District	NRHP Listing, VLR Listing	0.8
123-5025	Assault on Petersburg/Petersburg	DHR Potentially	0

DHR#	Resource Name	Historic Property Type	Distance to Line (Miles)
	Battlefield II	Eligible	
076-5168	Richmond National Battlefield	NRHP Listing, VLR Listing	0.3

VLR: Virginia Landmarks Register

I. Chesapeake Bay Preservation Areas

Construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Preservation Act as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 25-830-150. The proposed Rebuild Project is located within Chesapeake Bay Preservation Act jurisdictional counties.

J. Wildlife Resources

Agency databases were reviewed and agency consultations initiated with the USFWS, DGIF, and DCR to determine if the proposed Rebuild Project has the potential to affect any threatened or endangered species. As discussed in Section 2.F, certain federal and state listed species were identified as potentially occurring in the Rebuild Project area. The Company will coordinate with the USFWS, DGIF, and DCR as appropriate to determine whether surveys are necessary and to minimize impacts on wildlife resources. Because the proposed project is a rebuild of a transmission line within existing right-of-way, no loss of wildlife habitat is anticipated.

K. Recreation, Agricultural and Forest Resources

The Rebuild Project is expected to have minimal permanent impacts on recreational, agricultural, and forest resources since no additional right-of-way is required. The general character of the Rebuild Project area is predominantly urban with residential and scattered open space.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Land that does not meet the criteria for prime farmland can be considered to be "farmland of statewide importance." The criteria for defining and delineating farmland of statewide importance are determined by the Virginia Department of Agriculture and Consumer Services. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Other areas that are not identified as having national or statewide importance can be considered to be "farmland of local importance." This farmland is identified by the appropriate local agencies. Farmland of local

importance may include tracts of land that have been designated for agriculture by local ordinance. A total of 67.2 acres of prime farmland and 16.1 acres of farmland of statewide importance are located within the Rebuild Project right-of-way. No portion of the existing right-of-way for the Rebuild Project is currently in agricultural use. Neither Chesterfield County, Prince George County, nor the City of Hopewell have designated farmlands of local importance.

Under the Virginia Open-Space Land Act, any public body can acquire title or rights to real property to provide means of preservation of open-space land. Such conservation easements must be held for no less than five years in duration, and can be held in perpetuity. Two conservation easements are located within the right-of-way. A DHR easement is held on a property just north of the Appomattox River. This easement is associated with Point of Rocks (DHR ID 023-0123). A James River Soil and Water Conservation District easement is located south of the Appomattox River within Prince George County and the City of Hopewell. Both of these easements are on municipal parks. The proposed Rebuild Project is the rebuild of an existing transmission line and no additional right-of-way is required. In an email dated May 3, 2018, the Virginia Outdoors Foundation (“VOF”) stated that the proposed Rebuild Project does not appear to impact any existing or proposed VOF easements. See Attachment 2.K.1.

The Virginia Scenic Rivers Act seeks to identify, designate, and protect rivers and streams that possess outstanding scenic, recreational, historic, and natural characteristics of statewide significance for future generations. At the location of the existing crossing to be rebuilt, the Appomattox River has been designated as a scenic river. The structures north of the Appomattox River (Structures #40 and #41) will not be replaced, but new conductor will be strung as part of the Rebuild Project.

The existing right-of-way for the Rebuild Project crosses through a Chesterfield County park at Point of Rocks and the Appomattox River Regional Park, which is jointly administered by Prince George County and the City of Hopewell. Several other City of Hopewell parks are adjacent or near the right-of-way including Atwater Park and Mathis Field. These parks provide active recreation such as ball fields.

In April 2018, the Company solicited DCR for comments on the proposed Rebuild Project. In an email dated April 20, 2018, DCR stated that crossing the Appomattox River perpendicular to the waterbody visually reduces impacts to the scenic qualities of the river. See Attachment 2.K.2.

The entire width of the existing transmission corridor is currently cleared and maintained for 230 kV transmission facility operations. However, the Rebuild Project may require some trimming of tree limbs along the right-of-way edges to support construction activities. Trees and brush located within 100 feet of streams will be cleared by hand in accordance with the Company approved erosion and sediment control specifications.

Any tree along the right-of-way that is tall enough to endanger the conductors if it were to break at the stump or uproot and fall directly towards the conductors and exhibits signs or symptoms of disease or structural defect that make it an elevated risk for falling will be designated as a “danger tree” and may be removed. The Company’s arborist will contact the property owner if possible before any danger trees are cut, except in emergency situations. The Company’s Forestry Coordinator will field inspect the right-of-way and designate any danger trees present. Qualified contractors working in accordance with the Company’s electric transmission specifications will perform all danger tree cutting. The Rebuild Project is expected to have minimal, if any, impact on agricultural or forest resources as the proposed Rebuild Project involves rebuilding a portion of an existing line which is already cleared and maintained for existing facility operation and no additional right-of-way is required.

L. Use of Pesticides and Herbicides

Of the techniques available, selective foliar is the preferred method of herbicide application. The Company typically maintains transmission line right-of-way by means of selective, low volume applications of EPA approved, non-restricted use herbicides. The goal of this method is to exclude tall growing brush species from the right-of-way by establishing early successional plant communities of native grasses, forbs, and low growing woody vegetation. “Selective” application means the Company sprays only the undesirable plant species (as opposed to broadcast applications). “Low volume” application means the Company uses only the volume of herbicide necessary to remove the selected plant species. The mixture of herbicides used varies from one cycle to the next to avoid the development of resistance by the targeted plants. There are four means of dispersal available to the Company, including by-hand application, backpack, fixed nozzle-radiarc, and aerial. However, very little right-of-way maintenance incorporates aerial equipment. The Company uses licensed contractors to perform this work that are either certified applicators or registered technicians in the Commonwealth of Virginia.

DEQ has previously requested that only herbicides approved for aquatic use by the EPA or the USFWS be used in or around any surface water. The Company intends to comply with this request.

M. Geology and Mineral Resources

According to the Division of Geology and Mineral Resources Interactive Geologic Map, the Rebuild Project area consists primarily of sands, silts, gravels, and clays. According to the USGS topographic maps and aerial imagery, there are no active mines or stone quarries within the limits of the Rebuild Project. A search of the Virginia Department of Mines, Minerals, and Energy online map indicates there are one active, one released, and 10 orphaned sand and gravel mines within a 1.0-mile radius of the right-of-way. Coordinates of these mines are provided in Table 5. The Company does not anticipate that the rebuild of the

existing transmission line will result in negative impacts on the geology or mineral resources in the Rebuild Project area.

Table 5. Mines within 1.0-Mile of Rebuild Project Centerline

Mine ID	Mineral	Status	Latitude	Longitude
DMM04621	Sand	Orphaned	37.3522	-77.4008
DMM04620	Sand	Orphaned	37.3517	-77.4025
DMM04624	Sand	Orphaned	37.3529	-77.3913
DMM11116	Sand	Orphaned	37.3390	-77.4039
DMM04619	Sand	Orphaned	37.3399	-77.3920
DMM11113	Ochre	Orphaned	37.3207	-77.3486
DMM18003	Sand & Gravel	Orphaned	37.3126	-77.3429
DMM18002	Sand & Gravel	Orphaned	37.3131	-77.3264
DMM04616	Sand	Orphaned	37.2939	-77.3213
DMM18004	Sand & Gravel	Orphaned	37.2914	-77.2657
13902AC	Sand & Clay	Active	37.3508	-77.3846
13902AB	Sand & Clay	Released	37.3508	-77.3846

N. Transportation Infrastructure

The existing right-of-way to be used for the proposed Rebuild Project crosses 42 public and private roads. Roads within the project area range from low traffic volume county roads to urban arterials to limited access highways.

The Company plans to apply for land use permits from the Virginia Department of Transportation (“VDOT”) for the aerial crossings of VDOT maintained roads and any construction entrances from the VDOT right-of-way. All permits will be obtained prior to construction. The Company will prepare traffic control plans and submit to VDOT for approval concerning the line pull over I-295, limited access road. In April 2018, the Company solicited VDOT for comments on the proposed Rebuild Project.

The existing Rebuild Project right-of-way crosses two railroads, both operated by Norfolk Southern. The Company will coordinate with the railroad as necessary to obtain permits; however, it is not anticipated that the proposed Rebuild Project will affect railroad facilities or conflict with their operation.

The Company solicited comments from the Virginia Department of Aviation (“DOAv”) regarding the proposed Rebuild Project. The DOAv responded via a letter dated April 17, 2018 stating that there were no Federal Aviation Administration (“FAA”) public use airports within 20,000 linear feet of the project. The DOAv stated the requirement for the Company to submit Form 7460 to the FAA for any structures or temporary construction cranes that exceed 200 feet in height above ground level. This response is included as Attachment 2.N.1.

The design of the proposed Rebuild Project must prevent interference with pilots' safe ingress and egress at the airport. Such hazard or impediments include interference with navigation and communication equipment and glare from materials and external lights.

Finally, the Company has reviewed the FAA's website (<https://oeaaa.faa.gov/oeaaa/external/portal.jsp>) to identify airports within 10 miles of the Rebuild Project. Based on this review, five FAA-restricted airports are located within 10 miles of the project:

- Richmond International Airport, approximately 9.4 miles northeast of Chesterfield Power Station;
- Defense Supply Center Richmond Heliport, approximately 4.5 miles northwest of Chesterfield Power Station;
- Richmond Executive-Chesterfield County Airport, approximately 7.8 miles northwest of Chesterfield Power Station;
- Fort Lee AHP 3, approximately 2.5 miles south of Lines #211 and #228; and,
- Fort Lee NR 1, approximately 3.7 miles south of Lines #221 and #228.

Several private airports and helipads are located within 10 miles of the line and the Company will work with private entities as appropriate.

The Company will coordinate with VDOT, the railroads, DOAv, and the FAA as necessary to obtain all appropriate permits.